REMARKS

Claims 1-16 are pending in the present application. The Examiner has rejected claims 1, 4-11, 13, 15 and 16. Claims 1, 10 and 13 are independent.

Claim Objections

The Examiner has objected to claims 2-3, and 12-15 for containing minor claim informalities. Applicant have hereby amended claims 2, 12 and 14 to clarify the claim language in accordance with the Examiner's suggestions. Withdrawal of these objections is respectfully requested.

Rejection Under 35 U.S.C. §102

Claims 1, 4-11, 13, 15, and 16 are rejected under 35 U.S.C. § 102(b) as being anticipated by McGuffin (U.S. Patent No. 4,217,586). This rejection is respectfully traversed.

Initially, Applicants note that the Examiner, in rejecting claim 1, has relied upon different portions of the disclosure of McGuffin, without providing the detail that would be necessary to teach all of the claim limitations of claim 1. The following paragraphs provide a brief description of the disclosure of McGuffin, and a detailed analysis of the portions of McGuffin relied upon by the Examiner when alleging the anticipation of claim 1.

Applicants submit that McGuffin provides a spread spectrum adaptive processor arrangement. Figure 1, for example, illustrates a plurality of antennas (2a-2m) configured to receive incoming signals, and mixing circuitry (6a-6m) coupled to the antennas for modifying the received signals into IF signals, which are then fed to an adaptive filtering portion 14 of an adaptive signal processor 12.

The adaptive signal processor 12 contains the adaptive filtering portion 14 and a channel estimating portion 16. The filtering portion 14 includes a plurality of filtering loops corresponding to the received signals. The filtering loops contain a plurality of components, for example, 18, 20, 22, 24, 26, 28 and 30 for performing various calculations. See column 2, lines 50-60. In particular, subtractor 22 calculates an error feedback signal (E) represented by the difference between an array signal and a reference signal. The error feedback signal approaches '0' as the channel estimator 16 and the filtering portion 14, of the adaptive signal processor 12, continue to interact.

Column 8 of McGuffin

The Examiner has relied upon column 8, lines 25-31 of McGuffin as being allegedly sufficient to support anticipation of claim 1. Applicants disagree with this allegation.

Applicants submit that tapped delay line 38, in combination with local PN code generator 36 are disclosed in McGuffin as a sequence generator configured to accept loaded binary data from control circuitry 32. See column 3, lines 25-28 and Figure 1. The delay line 38 provides the local PN code generator 36 with delay information based on the maximum delayed multipath component. The local PN code generator 36 uses the delay information to determine if the timing of the received code requires a lead/lag adjustment during synchronization. Increasing the tapped delay permits synchronization with greater delay error between the received code and the local code. Applicants submit that the delay window disclosed in McGuffin is based on the delay of the tapped delay line. See column 8, lines 25-31.

Applicants submit that the delay of the tapped delay line is adjusted for synchronization of data received, and further illustrated by the combination of delay line 38 and local PN code generator 36, of Figure 1. Column 8, lines 25-35 of McGuffin states

> Therefore, selecting a longer tapped delay line permits synchronization with a greater delay error between the received code and the local code as observed at the local PN code generator terminals. As the delay window becomes larger, the average time for synchronization tends to decrease.
>
> A control system is required to adjust the local clock 34 to within the acceptable delay window. Apparently, use of the adaptive tap weights (or the absence of weights when outside the delay window) provides much of the information needed for this control.

Applicants submit, in view of the above disclosure of McGuffin, that the delay window is referring to the tapped delay line, and the longer tapped delay line is compared to the longer delay window.

The Examiner has relied upon a maximum multipath delay combined with a synchronization delay error between a received code and a local code, and the delay window, as recited in McGuffin, as teachings sufficient to support the alleged rejection of claim 1. Applicants submit that the Examiner's alleged reasoning is incorrect, for at least the followings reasons. Claim 1 recites:

> searching for a multipath component during an inactive period of said data transmission, including defining a dynamic acquisition search window having a time width which increases in proportion to a time duration of the inactive period.

Applicants submit that nowhere does McGuffin disclose searching for a multipath component during an inactive period of data transmission. The above described portion of McGuffin provides that the increase to the delay window **is the same** as an adjustment made to decrease the time required for synchronization. Applicants further submit that nowhere does McGuffin disclose defining a dynamic acquisition search window having a time width which increases in proportion to a time duration of the inactive period. The above described portion of McGuffin indicates that the delay window is adjusted in proportion to **a synchronization time** not an inactive period.

Figures 3 and 6 of McGuffin

The Examiner relies upon Figure 3 in support of the alleged rejection to claim 1. Figure 3 is described in the disclosure of McGuffin as a modified configuration of Figure 1. See column 8, lines 36-38. Figure 3 further discloses a PN code generator 60, which provides a data feed to tapped delay line 62, and a selector switch 66 in combination with the tapped delay line 62, that provides synchronization for the local code with the code contained in a received signal. Applicants submit that the alleged rejection of claim 1 based on Figure 3 is incorrect.

The Examiner alleges:

> The 66 FIG. 3 is the switch circuit used in the FIG. 6 when there is no detection of signal (that is inactive period); the FIG. 6 teaches the dynamic changing the acquisition search window when there is no detection by changing the switchcircuit 66 to another position; column 8 lines 25-31 and column 9 lines 55-65 further teach the functions of 66 FIG. 3.

Applicants submit that Figure 3 contains no component 38, and that column 8, lines 25-31 refers to Figure 1, for example the tapped delay line 38 illustrated in Figure 1. Figure 3 is a modified configuration of Figure 1 and cannot be interpreted with reference to portions of the disclosure of McGuffin which refer to Figure 1.

The Examiner alleges that selector switch 66 of Figure 3, is used when no signal is detected, and further that switch 66, in accordance with Figure 6, would provide a dynamic adjustment to an acquisition search window when no signal is detected. Applicants submit that Figures 3 and 6 do not support these allegations. Figure 3, described in the disclosure of McGuffin, provides for synchronization between local and received PN code data. Nowhere does the disclosure of McGuffin recite that Figure 3 uses the selector switch 66 for defining a dynamic acquisition search window having a time width which increases in proportion to a time duration of the inactive period.

Figure 6 of McGuffin illustrates the operation of the selector switch 66 in combination with threshold detector unit 80 of Figure 3. The detector unit 80 of Figure 3 accepts tap gain weight information and calculates a threshold for synchronization between local and received PN code data. Nowhere does the disclosure of McGuffin recite that Figure 6 uses the selector switch 66 for defining a dynamic acquisition search window having a time width which increases in proportion to a time duration of the inactive period.

Column 9 of McGuffin

The Examiner relies upon column 9, lines 55-65 of McGuffin as being allegedly sufficient to support anticipation of claim 1. Applicants disagree with this allegation.

McGuffin defines **a delay window of acquisition as an interval equal to the total delay of tapped delay line 64**, and describes a search sequence to find a delay. See column 9, lines 56-60. The search sequence relies on the delay window of acquisition, where an interval of the total delay of the tapped delay permits a faster search than a previously used delay lock loop. The search sequence is described by feeding local code information into the tapped delay line 62, containing a total delay at least as great as the delay uncertainty. The different taps are spaced at delay intervals approximately equal to the total delay of the delay line 64. See column 9, line 65 – column 10, line 3. **The delay intervals may change based on local timing concerns**. See column 10, lines 42-47.

Applicants submit that McGuffin discloses a PN code synchronization implementation configured to synchronize received data with local data by adjusting the amount of delay used by a tapped delay line. Nowhere does the disclosure of McGuffin disclose defining a dynamic acquisition search window having a time width which increases in proportion to a time duration

of the inactive period, the inactive period being an inactive period of data transmission, and searching for a multipath component during the inactive period, as described by independent claim 1.

Accordingly, for at least these reasons, Applicants submit that claim 1 and those claims dependent thereon, are allowable over the prior art. Withdrawal of the rejection is kindly requested.

Claims 10 and 13 contain similar features to those recited in claim 1. Accordingly, for at least the reasons similar to those set forth above with regard to claim 1, Applicants submit that claims 10 and 13, and those claims dependent thereon, are allowable over the prior art. Withdrawal of the rejection is kindly requested.

Rejection Under 35 U.S.C. §103

Claims 4-6 and 8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over McGuffin (U.S. Patent No. 4,217,586) in view of Yamashita (U.S. Patent No. 6,377,614), and claims 7 and 9 are rejected under 35 U.S.C. § 103(a) as being unpatentable over McGuffin (U.S. Patent No. 4,217,586) in view of Yamashita (U.S. Patent No. 6,377,614) and further in view of Bloebaum (U.S. Patent No. 6,188,351). These rejections are respectfully traversed.

As discussed above, independent claims 1, 10 and 13 are allowable over the prior art cited to record. Applicants submit that even by a cursory review of the aforementioned references, as cited by the Examiner in the above stated 103-type rejections, the references do not overcome the limitations of dependent claims 4-9. Further, none of the cited references render these missing limitations obvious. Withdrawal of this rejection is respectfully requested.

Conclusion

Accordingly, in view of the above amendments and remarks, reconsideration of the objections and rejections and allowance of each of claims 1-16 in connection with the present application is earnestly solicited.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Gary D. Yacura, Reg. No. 35,416 at the telephone number of the undersigned below.

In the event this Amendment does not place the present application in condition for allowance, applicant requests the Examiner to contact the undersigned at (703) 668-8000 to schedule a personal interview.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

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